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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/683,712      | 02/06/2002  | Mark C. H. Lamorey   | BUR920010092        | 7578             |

23550 7590 04/19/2004

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| EXAMINER |
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NGUYEN, KIMBINH T

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| ART UNIT | PAPER NUMBER |
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2671

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DATE MAILED: 04/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/683,712

Applicant(s)

LAMOREY ET AL.

Examiner

Kimbinh T. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

1. This action is responsive to amendment filed 2/11/04.
2. Claims 1-18 are pending in the application.

#### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Woolbright (5,640,497) in view of Chang et al. (6,370,579).

**Claim 1**, Woolbright discloses a method of verifying a data preparation for an article constructed of design layers (designing the original layouts polygon data, see abstract), the data (original and created layers data) being in terms of an instruction algorithm (design rules), comprising: restating the instruction algorithm (redesigning layouts) in terms of at least two fundamental algorithms (the layout to be redesigned should be logic verification system (LVS) correct and design rule correct (DRC software program; col. 3, lines 32-36); creating a graphical representation for each fundamental algorithm (a chip layout is turned into a representation called PG data. The PG data is basically a representation of the chip layout in polygons, such as squares or rectangles; col. 3, lines 58-61); combining the graphical representations (the combinations of

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layers) corresponding to each fundamental algorithm (the new design rules) according to the restated instruction algorithm to form a combined graphical representation (the creation of the new layer data; col. 2, lines 1-15); Woolbright teach the combined graphical representation but does not teach computationally determining whether the data preparation is correct based on the combined graphical representation; however, Change et al teaches combining a graphical representation (col. 21, lines 65-67) and computationally determining whether the data preparation is correct based on the combined graphical representation (col. 9, line 53 through col. 10, line 3). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate an algorithm to compute the corrections through the structures as taught by Chang into the layout redesign rules of Woolbright for determining the correction data on the combined graphical representation, because it would provide a model based correction for correcting all areas of the layout in accordance with a particular set of design accuracy rules (col. 6, lines 44-46). Further, **Claim 2**, Woolbright discloses organizing the instruction algorithm according to group theory operators (the logical operations used in defining the layer combinations include operators such as OR, NOT, XOR, etc; col. 4, lines 59-60). **Claim 3**, Chang et al. discloses determining a polarity of the product (positive serif, negative serif; col. 9, lines 53-65). **Claims 4-9**, Woolbright discloses inverting the combined graphical representation prior to the determining step (col. 9, lines 58-67); restating is a reiterative process (using software products; col. 3, lines 32-37); Chang et al. teaches the article is for one of an etching (col. 2, lines 33-34) and mask (col. 3, lines 50-67); Woolbright teaches the article includes discrete

segments (the polygon data is capable of being broken down into polygon segments, and subsegments; col. 1, lines 58-60); and Chang et al. teaches implementing the combined graphical representation and comparing the result to the article; comparing the combined graphical representation of the article (col. 5, lines 1-35).

**Claims 10-12**, the rationale provided in the rejection of claims 1, 8 and 9 is incorporated herein.

**Claims 13-18**, the rationale provided in the rejection of claims 1, 3, 4, 7-9 is incorporated herein. In addition, Woolbright teaches a computer usable medium having computer readable program code (col. 10, line 56 through col. 11, line 12).

### ***Response to Arguments***

5. Applicant's arguments with respect to claims 1-18 have been considered but are moot in view of the new ground(s) of rejection.

The rejection of claims 1-18 has been modified in this Office Action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Kimbinh Nguyen** whose telephone number is **(703) 305-9683**. The examiner can normally be reached **(Monday- Thursday from 7:00 AM to 4:30 PM and alternate Fridays from 7:00 AM to 3:30 PM)**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Zimmerman, can be reached at (703) 305-9798.

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Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

Or faxed to:

**(703) 872-9306 (for Technology Center 2600 only)**

Hand-delivered responses should be brought to Crystal Part II, 2121 Crystal Drive,  
Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or  
proceeding should be directed to the Technology Center 2600 Customer Service Office  
whose telephone number is (703) 306-0377.

April 13, 2004



Kimbinh Nguyen

Patent Examiner AU 2671